

Friends of Toppenish Creek

Dear WA Dept. of Ecology,

Please accept the attached comments on the proposed NPDES permits for CAFOs from the Friends of Toppenish Creek.

Thank you.

Jean Mendoza

FOTC Comments on NPDES Permits for CAFOs

Thank you for this opportunity to comment on the 2022 Proposed NPDES Permits for Concentrated Animal Feeding Operations.

Endangered Species

The Friends of Toppenish Creek (FOTC) begin our comments with strong support for healthy riparian buffers as described in Section S4.N. We do this because, in the opinion of many, saving salmon is the number one environmental priority in Washington State. Salmon are the heart of all that we hold dear – the forests, the streams, the birds, the wildlife, and yes, the people.

The 2018 State of the Salmon in Watersheds Report¹ states:

Washington State's network of organizations are committed to recovering salmon. Today, collaboration and partnerships are necessities. The challenge of recovering salmon spans jurisdictional boundaries and will take all of us working together to face the big challenges of the future.

FOTC considers the report's conclusion that we all must do our part to save salmon a fact that is beyond dispute. Doing our part means protecting rivers, streams, and spawning grounds from agricultural runoff. A strong and ENFORCED NPDES permit for CAFOs is vital for restoring salmon runs.

Going one step further, FOTC questions statements from the WA Dairy Federation in opposition to healthy riparian buffers. We do not believe that most individual Washington dairymen would willingly accept salmon extinction as a tradeoff to sustain the CAFO agricultural model. The WSDF should abandon malicious, unsubstantiated attacks on fisheries science and endorse efforts to prevent agricultural runoff into Washington rivers and streams.

Dairy Federation Policy Director Jay Gordon has stated, "Buffers would take up too much land for dairies to grow enough to feed their cows", but he does not present evidence to support this claim.² Mr. Gordon has a history of unsubstantiated claims³, and FOTC asks Ecology to consider this fact before acting on his assertions.

¹ 2018 State of the Salmon in Watersheds Report. 2019. Available at <https://www.ucsr.org/state-of-the-salmon-in-watersheds-2018/>

² Washington dairy rep rips Ecology's embrace of buffers. 2022. Capital Press. Available at https://www.capitalpress.com/ag_sectors/dairy/washington-dairy-rep-rips-ecologys-embrace-of-buffers/article_67cce66a-0ddd-11ed-982f-8bf368f3cd5f.html

³ Mr. Gordon has publicly accused the Community Association for Restoration of the Environment of negotiating settlements for undisclosed sums of money, which is false. See Deposition of Jay Gordon, page 84, at <http://charlietebbutt.com/files/Cluster%20CD/Gordon%206-25-14.pdf>

Mr. Gordon has publicly stated that there is a safety factor of 10 built into the EPA safe drinking water standards for nitrate. This is also false. See Deposition of Jay Gordon, page 104 at <http://charlietebbutt.com/files/Cluster%20CD/Gordon%206-25-14.pdf>

There is undisputed data showing that runoff from CAFO's has impacted salmon by depleting oxygen and causing algal growth.^{4,5,6} One should weigh the value of an industry that is taxpayer supported and over produces milk, against the value of salmon.

Public Health

There are people who will say there are no documented deaths attributed to nitrate in Washington drinking water. Therefore, they argue, nitrate contamination is not a priority concern. We disagree. Living or dying should not be the only measures of public health.

In 2008 the WA State Department of Health published a study entitled “Nitrate Exposure and Methemoglobin Levels among Infants in Washington State”. This study found that methemoglobin levels in infants increase proportionally with higher nitrate levels in drinking water.⁷ As methemoglobin levels rise, less oxygen is delivered to a child’s developing brain and nervous system.

The dangers of nitrates in drinking water go beyond methemoglobinemia. The library of research on health impacts from nitrates and nitrites is large and growing.⁸ A pollutant does not have to be the sole cause of a disease to be a focus of concern. If a pollutant in drinking water increases the likelihood of disease, then it should be addressed, and Ecology has an obligation to do so.⁹

⁴ Agricultural Pollution in Puget Sound. 2016. Western Environmental Law Center. Available at https://westernlaw.org/wp-content/uploads/Agricultural%20Pollution%20in%20Puget%20Sound%20-%20April%202016%20-%20Web_0.pdf

⁵ Puget Sound Nutrient Source Reduction Project. 2019. Available at <https://apps.ecology.wa.gov/publications/documents/1903001.pdf>

⁶ Technical Memorandum: Puget Sound Nutrient Source Reduction Project Phase II - Optimization Scenarios (Year 1). 2021. Available at https://www.ezview.wa.gov/Portals/_1962/Documents/PSNSRP/OptimizationScenarioTechMemo_9_13_2021.pdf

⁷ Vanderslice, J., 2008. Nitrate Exposure and Methemoglobin Levels among Infants in Washington State. *Epidemiology*, 19(6), p.S55. Available at https://journals.lww.com/epidem/fulltext/2008/11001/Nitrate_Exposure_and_Methemoglobin_Levels_among.155.aspx

⁸ Ward, M.H., Jones, R.R., Brender, J.D., De Kok, T.M., Weyer, P.J., Nolan, B.T., Villanueva, C.M. and Van Breda, S.G., 2018. Drinking water nitrate and human health: an updated review. *International journal of environmental research and public health*, 15(7), p.1557. Available at [file:///C:/Users/Jean%20Mendoza/Downloads/ijerph-15-01557%20\(4\).pdf](file:///C:/Users/Jean%20Mendoza/Downloads/ijerph-15-01557%20(4).pdf)

⁹ RCW 90.48.010, RCW 90.48.030, RCW 90.48.035, RCW 90.48.037, RCW 90.48.080, RCW 90.48.100, RCW 90.48.140, RCW 90.48.142, RCW 90.48.144

The International Agency for Research on Cancer states that the presence of nitrite combined with amines or amides in the stomach results in production of cancer-causing N-nitroso compounds.¹⁰ The U.S. Agency for Toxic Substances and Disease Registry states that maternal exposure to nitrates and nitrites may increase the risk of anemia, threatened abortion or preeclampsia.¹¹ Recent epidemiologic data suggest an association between nitrate in drinking water and spontaneous abortions, intrauterine growth restriction and various birth defects.¹¹

And yet, despite overwhelming evidence of groundwater pollution from dairies in the Lower Yakima Valley, the draft NPDES permit for CAFOs only requires groundwater monitoring in extreme situations, after contamination has already occurred. Plus, there is no routine monitoring for bacterial contamination. This is not protective of public health.

Permit Comments by Section

G11. Payment of Fees

Reduced permit fees give large CAFO dairies an unfair advantage in the marketplace. WAC 173-224 states that fees for Concentrated Animal Feeding Operations are:

Industrial Facility Categories	Number of Animal Units	FY 2022 Annual Permit Fee	FY 2023 Annual Permit Fee and Beyond
Nondairy CAFOs			
1.	< 200 AU	\$308.00	\$308.00
2.	200 - < 400 AU	\$772.00	\$772.00
3.	400 - < 600 AU	\$1,546.00	\$1,546.00
4.	600 - < 800 AU	\$2,317.00	\$2,317.00
5.	800 AU and greater	\$3,094.00	\$3,094.00
Dairy CAFOs			
		\$.50 per AU	\$.50 per AU
		Not to exceed \$2,076.00	Not to exceed \$2,076.00

Thus, a non-dairy CAFO with 800 animal units will pay \$3,094.00 for a permit while a dairy with 800 animal units will pay \$400.00. A dairy with 20,000 animal units will pay \$2,076.00 and so will a dairy with 4,152 animal units. This is wrong.

¹⁰ International Agency for Research on Cancer, 2010. *Ingested nitrate and nitrite, and cyanobacterial peptide toxins* (Vol. 94). IARC Press, International Agency for Research on Cancer.

¹¹ Agency for Toxic Substances and Disease Registry. 2013. *What are the health effects from exposure to nitrates and nitrites?*. Available at https://www.atsdr.cdc.gov/csem/nitrate-nitrite/health_effects.html

S1.A. Facilities Required to Seek Coverage under This General Permit

Question: Do the permits apply to calf feeding operations with thousands of calves in hutches? The permits should require testing for cryptosporidium in soils and groundwater on these sites. Cryptosporidium cause “scours” a disease that is prevalent in young calves and kills many. Cryptosporidium spreads to groundwaters and surface waters and can live in the soil for months.

S3.A Total Maximum Daily Loads (TMDL) & S3.B Impaired Waterbodies

There is no section in the permitting or reporting that requires CAFO owners to identify nearby impaired waters or demonstrate that no discharges to those waters take place. Washington’s TMDL’s are out of date. How can CAFO owners in the Nooksack Watershed, or the Lower Yakima Valley demonstrate that they are not contributing to bacterial contamination of water in these areas? In fact, the permits require no regular monitoring for discharge of bacteria at all.

S4.B Production Area Run-off Controls - The Permittee must keep manure, litter, and process wastewater from being tracked out onto public roadways.

Because investigations of citizen complaints about manure tracking on public roads are conducted by the WSDA Dairy Nutrient Management Program, the investigations almost always find that CAFO dairies have complied with their Nutrient Management Plans (NMPs) and therefore did nothing wrong. This section of the permit may sound reassuring to city dwellers who do not tolerate manure in their streets and want to believe that agencies are responsive. For rural citizens who sometimes walk around manure to reach their mailboxes this section weakens confidence in permit effectiveness because it will likely not be enforced.

S4.C (4) Waste Storage Pond Closure Procedures

Please add a requirement to test soils below and to the sides of decommissioned wastewater storage ponds until samples test < 45 ppm for nitrogen. Contaminated soils should be removed and properly treated. The evidence is clear that large amounts of nitrate, ammonia, and other pollutants leach into the soils from old manure lagoons.¹² If contaminated soils are not removed, the pollutants will continue to leach to underlying aquifers.

¹² H&S Bosma Dairy Lagoon No. 3 Abandonment Plan. 2022. Available at http://charlietebbutt.com/files/CAFOs/Bosma%20Lagoon%203%20Abandonment%20Plan_20220118.pdf

S4.K Land Application & S4.L Adaptive Management of Land Application Fields

Although there is a requirement to test soil for phosphorous, we do not find any restrictions on application of manure as fertilizer when phosphorous levels are elevated. For many reasons, including the risk of phosphorous runoff to surface waters, this pollutant should be addressed in the Adaptive Management part of each MPPP for every CAFO. When phosphorous levels are high, soil testing for phosphorous should be done annually.

S4.N (2) Field Discharge Management Practices - States:

Field discharge management practices are not considered part of the Permittee's land application area for calculating yearly field nutrient budgets and may not have manure, litter, process wastewater, or other organic by-products applied to them. Livestock must be excluded from these areas.

Please re-write this section for clarity. To our reading this section equates a management practice with an application area, and this does not make sense.

S5. Monitoring

Please add a requirement for routine monitoring of the effluent from tile drains. At the July workshops and listening sessions Ecology told the public that the permits require monitoring of this effluent, but we only find this requirement in the case of an observed discharge. Without routine sampling of effluent from tile drains, there is no way to know how much nitrogen or bacteria leaves cropland and travels to surface waters.

S5.D. Groundwater Monitoring

1. There is a big difference between housing a few hundred milk cows in a few hundred square miles and housing a hundred thousand milk cows in three hundred square miles. FOTC is prepared to describe the difference in the impact on soil, microbiota, nitrification and denitrification, and groundwater chemistry in detail. Because so many animals are concentrated in small areas, FOTC proposes that monitoring wells must be drilled around large CAFOs. We have studied the document entitled *Implementation Guidance for the Ground Water Quality Standards*, and we believe this document supports our position.

¹³ Kimsey, M. 2005. *Implementation Guidance for the Ground Water Quality Standards*. Available at <https://apps.ecology.wa.gov/publications/documents/9602.pdf>

2. FOTC requests sampling of groundwater to include testing for Nitrate – N using EPA method 300.0; for Nitrite – N using EPA method 300.0; and for chloride using EPA method 300.0. Here is why:

- Chloride is often detected in groundwater before nitrate. Testing for chloride would provide an early signal of groundwater pollution
- The safe drinking water standard for Nitrite-N is 1 mg/L. If testing is only done for nitrate and nitrite combined and the standard is 10 mg/L, there is a risk of classifying groundwater as safe for drinking when the groundwater contains unsafe levels of Nitrite – N. This has occurred in the Buena/Sawyer are in Yakima County where Nitrite – N levels sometimes exceeded Nitrate – N levels in 2010. See the table below¹³:

Buena/Sawyer – Study 522		Year - 2010			
Name of Well		Dissolved Oxygen	Nitrate - N	Nitrite - N	% Nitrite
MW-10		0.45	1.55	3.75	71%
MW-11		0	0.1	3.05	97%
MW-15		0.42	0.1	0.1	50%
MW-18		0	1.4	7.02	83%
MW-2		1	6.3	5.42	46%
MW-3		0	8.35	4.85	37%
MW-4		0	2.18	10.05	82%
MW-8		0.52	0.5	0.1	17%
MW-9		0	2.3	2.3	50%
MW-8		0.52	0.5	0.1	17%

3. The draft permits do not specify a laboratory method for testing for total N in Table 11 – Surface Water Monitoring.

S7.C.2 and S7.C.4: Assessment for WSP’s and Solids Storage

These assessments should be completed prior to approving permit applications. It is much more difficult for citizens to contest an approved permit than it is to contest a permit application. We believe the laws require applicants to provide sufficient information to citizens so the public can evaluate environmental impacts in a timely manner.

¹³ From Ecology Environmental Information Monitoring at <https://apps.ecology.wa.gov/eim/search/Groundwater/GWSearch.aspx?SearchType=Groundwater&State=newsearch&Section=all>

S7.C.2: Assessment for waste storage ponds without leak detection systems

FOTC asks Ecology to delete the option of using Tech Note 23 to assess discharge from waste storage ponds. We have explained our rationale in previous comments.

S7.D Annual Report:

Reporting should include:

- Estimated discharge from tile drains and concentration of nitrogen, phosphorous and bacteria in the effluent
- Annual soil phosphorous test results when soil phosphorous levels are high
- Estimated discharge to groundwater from waste storage ponds
- Estimated amount of nitrogen lost to volatilization (This is important because volatilization of nitrogenous compounds leads to atmospheric deposition that impacts soils and waterways and contributes to climate change)

Conclusion

In 2002, the Valley Institute for Research and Education (VIRE Study) found elevated levels of nitrate in 40 Lower Yakima Valley domestic wells.¹⁴ This study divided the Lower Yakima Valley into two areas - Region 1 included the cities Buena, Parker, Wapato, Toppenish, and Zillah. Region 2 included the cities Grandview, Granger, Mabton, Outlook and Sunnyside. All the contaminated wells were in Region 2 where LYV dairies are situated.

More recently studies have identified about 300 contaminated wells.¹⁵ And 45% of the thirty monitoring wells drilled by the Lower Yakima Valley Groundwater Management Area (LYV GWMA) have nitrate levels above the safe drinking water standard of 10 mg/L.^{16, 17}

¹⁴ Sells & Knutson. Quality of Ground Water in Private Wells in the Lower Yakima Valley, 2001 – 2002. Available at <https://apps.ecology.wa.gov/publications/documents/0210074.pdf>

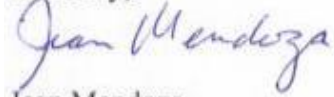
¹⁵ Lower Yakima Valley Groundwater Management Area. 2019. Available at <https://www.yakimacounty.us/541/Groundwater-Management>

¹⁶ Ambient Monitoring Initial Report. 2019. Available at <https://www.yakimacounty.us/DocumentCenter/View/21633/GWAC-Presentation---Monitoring-Well-Report-Overview---2019620-v20-1>

¹⁷ Ecology Environmental Information System. Report for Study entitled MRED 0005. 2022. Quarterly sampling from 2021 and 2022. Available at <https://apps.ecology.wa.gov/eim/search/Groundwater/GWSearchResults.aspx?ResultType=GroundwaterWellTab&StudyUserIds=MRED0005&StudyUserIdSearchType=Contains&HasGroundwaterData=True&LocationWRIs=37&ResultParameterGroupId=423>

Ongoing research by the Environmental Protection Agency confirms egregious groundwater pollution by LYV dairies. In 2014 60% of domestic wells one mile downgradient from a cluster of LYV dairies had nitrate levels above 10 mg/L.¹⁸ Monitoring wells on the cluster have tested as high as 234 mg/L for Nitrate -N.¹⁸

Sincerely,



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¹⁸Environmental Protection Agency Lower Yakima Valley. Fact Sheet: Yakima Valley Dairies Consent Order Update. 2014. Available at <https://www.epa.gov/wa/lower-yakima-valley-groundwater>

FOTC Comments on NPDES Permits for CAFOs – Determination of Non-Significance

Thank you for this opportunity to comment on Ecology’s Determination of Non-Significance for the 2022 proposed National Pollutant Discharge Elimination (NPDES) Permits for Concentrated Animal Feeding Operations (CAFOs).

RCW 43.21C.020 clearly lays out the rights and responsibilities of Washingtonians, and the responsibilities of Washington State agencies regarding harmony between humankind and the environment.

RCW 43.21C.020 does not say that the right to a healthy environment is reserved for those who can afford legal council and fight for their rights in the courts.

RCW 43.21C.020 does not say that citizens must monitor the agencies to make sure the agencies enforce the laws. In fact, citizens should be able to rely on agencies such as the WA State Dept. of Ecology (Ecology) to protect our rights to clean air and water. See RCW 90.48 and RCW 90.44.

RCW 43.21C.020 does not say that Washington State agencies have the discretion to only apply SEPA when it is easy.

WAC 197-11-340 requires Ecology to withdraw a Determination of Non-significance if, “there is significant new information indicating, or on, a proposal’s probable significant adverse environmental impacts.”

Because Ecology’s draft NPDES permit for CAFOs would cause the agency to issue permits to CAFO dairies that have significant adverse impacts on the environment, the Friends of Toppenish Creek (FOTC) argue that Ecology must complete an Environmental Impact Statement (EIS) before approving these general permits. That EIS should estimate the amount of pollution coming from CAFOs eligible to receive permits.

We submit that Ecology’s Determination of Non-significance is unlawful because Ecology has not quantified or evaluated:

- leakage of pollutants from out of date manure lagoons that would be allowed under the proposed permits
- discharge of pollutants to impaired water bodies from tile drains
- discharge of pollutants to impaired water bodies when manure is applied too close to rivers and streams
- overtopping of manure lagoons during flood events when Ecology permits construction of CAFOs in flood plains.
- emission of hazardous air pollutants and greenhouse gases that result from CAFO manure management
- public health costs when people drink contaminated water or breathe polluted air
- other, unspecified impacts

Here is one example of significant discharge from CAFO dairies that are drylot operations. There are many others.

Significant Discharge from Open Lot Dairies

Best estimates tell us there are 50 cows per acre on drylot dairy CAFOs.¹ Let's picture a dairy with a 100-acre drylot and 5,000 milk cows. Does this CAFO discharge to groundwater? What happens to nitrogen excreted by the 5,000 cows in this small area?

Each milk cow produces about 1 lb. of nitrogen per day in urine and feces.^{2, 3} This equates to 5,000 lbs. of nitrogen (organic nitrogen, nitrate, nitrite, ammonia) per day on 100 acres.

Over half of the excreted nitrogen is in urine.⁴ For purposes of discussion let's say half. This equates to 2,500 lbs. of nitrogen per day on 100 acres or 25 lbs. of nitrogen per acre per day in urine.

To put this into perspective consider this. If this land was planted in corn, experts recommend applying about 250 lbs. of nitrogen per acre per year or 0.7 lbs. per acre per day.⁵

The nitrogen in urine cannot be captured by manure solids separation or flushing into a lagoon. There are no flush systems in pens and corrals. Choices are:

- Evaporation
 - Runoff
 - Absorption into the soil beneath the open lot
-

¹ Viers, J.H., Liptzin, D., Rosenstock, T.S., Jensen, V.B., Hollander, A.D., McNally, A., King, A.M., Kourakos, G., Lopez, E.M., De La Mora, N., Fryjoff-Hung, A., Dzurella, K.N., Canada, H.E., Laybourne, S., McKenney, C., Darby, J., Quinn, J.F. & Harter, T. (2012) Nitrogen Sources and Loading to Groundwater. Technical Report 2 in: Addressing Nitrate in California's Drinking Water with a Focus on Tulare Lake Basin and Salinas Valley Groundwater. Report for the State Water Resources Control Board Report to the Legislature. Center for Watershed Sciences, University of California, Davis. Page 139. Available at <https://ucanr.edu/sites/groundwaternitrate/files/139110.pdf>

² Ninth Circuit Court (2015) Order RE Cross Motions for Summary Judgement. CARE v. Cow Palace, page 44/111. Available at <http://charlietebutt.com/files/CP/320%20-%20Order%20Granting%20in%20Part%20Mtn%20for%20Summary%20Judgment.pdf>

³ Lower Yakima Valley Groundwater Management Area (2019) GWMA Final Report. Volume I, page 25. Available at <https://www.yakimacounty.us/DocumentCenter/View/22177/GWMA-VolumeI-July2019>

⁴ Rotz, C. A. (2004). Management to reduce nitrogen losses in animal production. *Journal of animal science*, 82(suppl_13), E119-E137. Page E132. Available at https://www.researchgate.net/profile/Ca-Rotz-2/publication/8243583_Management_to_Reduce_Nitrogen_Losses_in_Animal_Production/links/549af0830cf2b803713716b2/Management-to-Reduce-Nitrogen-Losses-in-Animal-Production.pdf

⁵ Lower Yakima Valley Groundwater Management Area (2019) Nitrogen Availability Assessment. Page 40. Available at <https://www.yakimacounty.us/DocumentCenter/View/17514/June-2018-Final-Nitrogen-Availability-Assessment->

Because reactive nitrogen is an air pollutant, and nitrogen in many forms is a water pollutant, Ecology must consider the impact of these products of CAFO operations. The nitrogen must go someplace. It does not disappear.

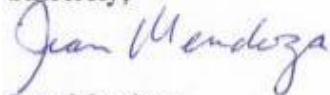
The State of Washington spends over \$1.2 million every two years on a dairy nutrient management program. Surely this program can inform Ecology and the public about the movement of nitrogen from urine to air, water, and soil.

In fact, the WA State Dept. of Agriculture (WSDA) does estimate that 35% of excreted nitrogen from dairy production areas is volatilized.³

And so, in the case of pens and corrals, this means regulators do not know what happens to about 16.25 lbs. of nitrogen per acre per day from urine. Are there ditches within or pipes beneath open dairy lots that transport runoff from the lots to manure lagoons? They are not addressed in the draft NPDES permit for CAFOs. If runoff does not exist then approximately 16.25 lbs. of nitrogen per acre per day either soaks into the soil and leaches to groundwater, or significantly increases the 35% volatilization rate that is predicted in WSDA calculations. This is not just a potential to discharge. This is an actual discharge.

Ecology must follow SEPA and prepare an Environmental Impact Statement that evaluates the impact of this discharge. Only then can Ecology legally write a proper Determination of Significance or Non-Significance. There are many other serious impacts to the environment from Washington CAFOs. FOTC is happy to share further examples with Ecology. The current DNS is unlawful.

Sincerely,



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